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EXAMINER

KRYLOVA, IRINA

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

12/18/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 2, 2009 has been entered.
2. The amendment to claims 1, 8, 9 and addition of new claim 16 is acknowledged.
3. The Declaration under 37 C.F.R. 1.132, filed by Applicant on December 2, 2009, has been fully considered. In light of the Declaration and arguments filed by applicant on December 2, 2009, all previous prior art rejections have been withdrawn. However, further searching uncovered additional pertinent prior art references which preclude allowance of the instant claims. The new grounds of rejections are set forth below.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Obvious double patenting rejection I.

4. Claims 1-16 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No.11/908,462 (published US 2009/0054549).

The rejection is adequately set forth on pages 11-13 of an Office Action mailed on June 2, 2009 and is incorporated here by reference.

Since no Terminal Disclaimer has been filed, the rejection is maintained.

Obvious double patenting rejection II.

5. Claims 1-16 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 20 of copending Application No.11/817,573 (published US 2008/0289740). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

The rejection is adequately set forth on pages 13-15 of an Office Action mailed on June 2, 2009 and is incorporated here by reference.

Since no Terminal Disclaimer has been filed, the rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-12, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yokoyama et al** (US 5,959,039).

7. Yokoyama et al discloses a rubber composition and a tire comprising the composition (as to instant claim 15), wherein the composition comprises:

- A) 100 pbw of a high molecular weight polymer comprising a copolymer of vinyl aromatic hydrocarbon, specifically styrene (col. 4, lines 42-50), and conjugated diene, specifically butadiene (col. 4, lines 32-41), having a molecular weight of 300,000 to 1,500,000 (as to instant claim 3, col. 3, lines 34-25); wherein the content of bound styrene is not greater than 30%wt (col. 2, lines 1-7);
- B) 30-120 pbw (col. 2, lines 25-28) of a low molecular weight polymer component comprising a copolymer of vinyl aromatic hydrocarbon, specifically styrene (as to instant

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claim 5, cited in col. 4, lines 42-50), and conjugated diene, specifically butadiene (as to instant claim 6, cited in col. 4, lines 32-41), having a molecular weight of 2,000 to **80,000** (as to instant claims 1, 8, 9, 16, cited in col. 2, lines 8-15; wherein the amount of bound styrene is not greater than 30%wt (col. 2, lines 13-15) and wherein each of the HMW polymer and LMW polymer satisfies the following formula:

$$S + (V/2) < 25,$$

Wherein S is an amount of bound styrene (%wt) and V represents a vinyl linkage content (%wt) (col. 2, lines 15-23).

8. Therefore, as can be seen from the above formula, the lower the styrene content in the rubber, the higher the vinyl linkage content may be. At the content of bound styrene 10%wt (which is within the range of 5-80% of styrene, as claimed in the instant invention), the content of vinyl linkage may be up to 25%wt, which is also within the range of vinyl linkage 10-80%wt claimed in the instant invention (based on the mathematical calculation according to the above formula).

9. All ranges of the components in the composition of **Yokoyama et al** are overlapping with the corresponding ranges of the components of the composition claimed in the instant invention. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409

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F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); In re Peterson, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); In re Woodruff, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

10. As to instant claims 4 and 7, the HMW rubber and LMW rubber are produced by a solution polymerization or an emulsion polymerization (col. 4, lines 54-67).

11. The composition may further comprise natural rubber and/or synthetic rubber blended with the above composition (col. 5, lines 52-54).

12. As to instant claims 10-12, the composition may further comprise 50 pbw of a carbon black HAF filler (col. 10, lines 55-65).

13. Though in the case of the HMW copolymer of **Yokoyama et al** having the content of styrene 20%wt (S value) and vinyl content of 10% (V value), according to the above cited equation, i.e. $S + (V/2)$, will provide the value of 25 (rather than < 25); however, it is the examiner's position that the values are close enough that one of ordinary skill in the art would have expected the same properties. Case law holds that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to

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have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

14. **Claims 3-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yokoyama et al** (US 5,959,039) in view of **Sasaka et al** (US 6,376,593).

15. The discussion with respect to **Yokoyama et al** (US 5,959,039) set forth in paragraphs 6-13 above, is incorporated here by reference.

16. Yokoyama et al (US 5,959,039) fails to specify the composition further comprising silica filler and softening agent.

17. Sasaka et al discloses a rubber composition and a tire formed by using the composition (as to instant claim 15) comprising:

1) 100 pbw rubber component comprising:

A) 5-50%wt of LMW butadiene rubber having molecular weight of 5,000-80,000;

B) 50-90%wt of styrene-butadiene rubber having bound styrene content of 15-45%wt and amount of vinyl bonding in the butadiene portion of 7-60%mol;

2) 40-95 pbw of silica (as to instant claims 10-11, cited in Abstract).

18. The composition further comprises carbon black of SAF class and process oils (col. 6, lines 1-3), wherein the composition comprises excellent wet skid performance and ice skid performance (col. 6, lines 43-49).

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19. Since

1) **Yokoyama et al** discloses a rubber composition and a tire comprising the composition, wherein the composition comprises a high molecular weight polymer comprising a copolymer of styrene and butadiene, having a molecular weight of 300,000 to 1,500,000; wherein the content of bound styrene is not greater than 30%wt (col. 2, lines 1-7); and a low molecular weight polymer component comprising a copolymer of styrene and butadiene, having a molecular weight of 2,000 to 80,000; but fail to specify the composition further comprising silica filler and softening agent;

2) **Sasaka et al** discloses a rubber composition and a tire formed by using the composition, similar to that of **Yokoyama et al**, but further specifies the use of silica and process oils, wherein the composition comprises excellent wet skid performance and ice skid performance (col. 6, lines 43-49); therefore,

It would have been obvious to a one of ordinary skill in the art at the time of the invention was made to add silica filler and process oil in the composition of **Yokoyama et al**, as taught by **Sasaka et al**, to further improve wet skid performance and ice skid performance of the tire of **Yokoyama et al** as well.

20. Claims 1-11, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawauzra et al** (US 5,679,744).

21. **Kawauzra et al** discloses a rubber composition and a tire (as to instant claim 15), wherein the composition comprises:

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A) 100 pbw of combination of:

- 1) a natural rubber;
- 2) a styrene-butadiene rubber having styrene content of not more than 50%wt and vinyl content satisfying the relationship of $V_n < 2St + 30$ (col. 4, lines 55-62); wherein the ratio of components 1) and 2) is 70 to 30/30 to 70 (as to instant claims 2-3, cited in col. 3, lines 40-45); and

B) 2-20 pbw of styrene-butadiene block copolymer having styrene content of not more than 50%wt (col. 4, lines 62-67) and block a) having vinyl bond content of 5-30%wt and block b) having vinyl bond content of 73-80% (col. 5, lines 60-67; col. 6, lines 1-5) and the molecular weight of 50,000-800,000 (as to instant claims 1, 8, 9, 16, cited in col. 6, lines 49-54).

22. As to instant claims 13-14, the composition further comprises 5-50 pbw of softening agent (col. 6, lines 55-65).

23. As to instant claims 10-11, the composition further comprises 20-90 pbw of any generally used carbon black filler (col. 17, lines 29-34).

24. As to instant claim 4, the styrene-butadiene rubber is produced by a solution or emulsion polymerization (col. 15, lines 60-67).

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25. All ranges of the components in the composition of **Kawauzra et al** are overlapping with the corresponding ranges of the components of the composition claimed in the instant invention. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir. 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

26. Claims 4-12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawauzra et al** (US 5,679,744) in view of **Yokoyama et al** (US 5,959,039).

27. The discussion with respect to **Kawauzra et al** (US 5,679,744) set forth in paragraphs 20-25 above, is incorporated here by reference.

28. Yokoyama et al discloses a rubber composition and a tire comprising the composition, wherein the composition comprises a high molecular weight polymer comprising a copolymer of styrene and butadiene, having a molecular weight of 300,000 to 1,500,000; wherein the content of bound styrene is not greater than 30%wt (col. 2, lines 1-7); and a low molecular weight polymer component comprising a copolymer of

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styrene and butadiene, having a molecular weight of 2,000 to 80,000; wherein the composition further comprises 50 pbw of a carbon black HAF filler (col. 10, lines 55-65).

29. Since **Kawauzra et al** discloses a rubber composition for making tires comprising any generally used carbon black filler, but fails to specify the filler being HAF or SAF class; **Yokoyama et al** discloses a rubber composition, similar to that of **Kawauzra et al**, but specifies the use of carbon black HAF filler, therefore, it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use the carbon black HAF filler of **Yokoyama et al** in the composition of **Kawauzra et al** since it would have been obvious to substitute one equivalent for another used for the same purposes. Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

Response to Arguments

30. Applicant's arguments filed on December 2, 2009 have been fully considered.

It is noted that in light of Declaration under 37 C.F.R. 1.132 and Applicant's arguments filed on December 2, 2009, all previous prior art rejections have been withdrawn, thus

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rendering Applicant's arguments moot. The new grounds of rejections are set forth above. Specifically, see discussion in paragraphs 6-29 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1796

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/Vasu Jagannathan/

Supervisory Patent Examiner, Art Unit 1796